

SRNT

09/806,413 SEARCH STRATEGY

(FILE 'HOME' ENTERED AT 14:54:24 ON 05 JAN 2004)

FILE 'MEDLINE, AGRICOLA, CAPLUS, BIOSIS, EMBASE, WPIDS' ENTERED AT  
14:54:57 ON 05 JAN 2004

L1 978 S (BETA- OR B-) (W) GLYCOSIDASE  
L2 34 S L1 AND AGLYCON  
L3 28 DUP REM L2 (6 DUPLICATES REMOVED)  
L4 2 S DIGLYCOSIDASE AND AGLYCON  
L5 17 S DIGLYCOSIDASE  
L6 10 DUP REM L5 (7 DUPLICATES REMOVED)

FILE 'CAPLUS' ENTERED AT 15:14:50 ON 05 JAN 2004

FILE 'STNGUIDE' ENTERED AT 15:14:56 ON 05 JAN 2004

FILE 'CAPLUS' ENTERED AT 15:15:00 ON 05 JAN 2004

E YAMAMOTO S/AU 25  
E YAMAMOTO SH/AU 25  
L7 3 S (E32 OR E33) AND (DIGLYCOSIDASE OR PRIMEVEROSIDASE OR AGLYCON  
E OKADA MA/AU 25  
L8 133 S (E44 OR E45)  
L9 133 S (E44 OR E45)  
L10 7 S L9 AND (ASPER? OR PENICI? OR RHIZO? OR TALAROM? OR MORTIE? O  
E USUCHI TA/AU 25  
E USUI TA/AU 25  
L11 13 S (E9 OR E10 OR E11 OR E12) AND (DIGLYCOSIDASE OR PRIMEVEROSIDA  
E SAKATA K/AU 25  
L12 23 S (E3 OR E4 OR E5 OR E12 OR E13) AND (DIGLYCOSIDASE OR PRIMEVER  
E TOUMOTO A/AU 25  
L13 2 S (E4) AND (DIGLYCOSIDASE OR PRIMEVEROSIDASE OR AGLYCON)  
E TSURUHAMI KA/AU 25  
L14 6 S (E4) AND (DIGLYCOSIDASE OR PRIMEVEROSIDASE OR AGLYCON)

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SRNT

## IUBMB Enzyme Nomenclature

## EC 3.2.1.149

**Common name:**  $\beta$ -primeverosidase**Reaction:** a 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranoside + H<sub>2</sub>O = 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranose + an alcohol**Glossary**primeverose = 6-*O*-( $\beta$ -D-xylopyranosyl)-D-glucosevicianose = 6-*O*-( $\alpha$ -L-arabinopyranosyl)-D-glucose**Systematic name:** 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranoside 6-*O*-( $\beta$ -D-xylosyl)- $\beta$ -D-glucohydrolase

**Comments:** The enzyme is responsible for the formation of the alcoholic aroma in oolong and black tea. In addition to  $\beta$ -primeverosides [i.e. 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranosides], it also hydrolyses 6-*O*-( $\beta$ -D-apiofuranosyl)- $\beta$ -D-glucopyranosides and, less rapidly,  $\beta$ -vicianosides and 6-*O*-( $\alpha$ -L-arabinofuranosyl)- $\beta$ -D-glucopyranosides, but not  $\beta$ -glucosides. Geranyl-, linaloyl-, benzyl- and *p*-nitrophenol glycosides are all hydrolysed.

**Links to other databases:** [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number:**References**

1. Ijima, Y., Ogawa, K., Watanabe, N., Usui, T., Ohnishi-Kameyama, M., Nagata, T. and Sakata, K. Characterization of  $\beta$ -primeverosidase, being concerned with alcoholic aroma formation in tea leaves to be processed into black tea, and preliminary observations on its substrate specificity. *J. Agric. Food Chem.* 46 (1998) 1712-1718.
2. Ogawa, K., Ijima, Y., Guo, W., Watanabe, N., Usui, T., Dong, S., Tong, Q. and Sakata, K. Purification of a  $\beta$ -primeverosidase concerned with alcoholic aroma formation in tea leaves (cv. Shuxian) to be processed to oolong tea. *J. Agric. Food Chem.* 45 (1997) 877-882.

[EC 3.2.1.149 created 2001]

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